BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: December 20, 2017
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Ron Crickard
Mark Hemmerlein
Victoria Chase
Rebecca Martin
Jason Tremblay
Kirk Mudgett
Keith Cota
Marc Laurin
Chris Carucci
Jennifer Reczek
Jon Hebert
Wendy Johnson
Jon Evans

ACOE
Mike Hicks

EPA
Mark Kern

Federal Highway
Jamie Sikora

NHDES
Gino Infascelli
Lori Sommer

NHF&G
Carol Henderson

NH Natural Heritage Bureau
Amy Lamb

Consultants/Public Participants
John Byatt
Jaime French
Henry Kunhardt
Christine Perron
Jed Merrow
Steve Hoffmann
Ben Martin
Kevin Thatcher

(When viewing these minutes online, click on an attendee to send an e-mail)

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:
(minutes on subsequent pages)

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

NOTES ON CONFERENCE:

Finalization of the October 18th and November 15th Natural Resource Agency Meeting Minutes.
Matt Urban ask the group if there were any other comments or edits for the October 18th and November 15th 2017 meeting minutes. We had received only a few comments for each. No one objected to finalizing both sets of minutes. The minutes were finalized and posted after the meeting.

Ossipee, #14749 (X-A000(490))
The Ossipee 14749 project proposes to replace three bridges and rehabilitate 3.4 miles of NH Route 16/25. The project is not anticipated to reach the 10,000 square feet of wetland impact threshold for mitigation, but does include stream and bank impacts to the Lovell and Bearcamp Rivers. The project will advertise on July 10, 2018. Construction will be completed in June of 2021.

The bridges over the Bearcamp River and Bearcamp flood relief area will be replaced on the same alignment using slide-in bridge construction, which involves building the new bridge next to the existing bridge, closing the road for a one weekend per bridge, and sliding the new bridge into place. The Lovell River Bridge replacement will be a standard bridge replacement with a temporary detour bridge constructed, the existing bridge demolished and replaced, and then the detour removed. There will be some road profile modifications at the bridges and in some sections of road rehabilitation of up to 6 inches. NH Route 16 will be widened at the intersections with Deer Cove Road and Newman Drew Road for a turn lane. There will be 3 culverts replaced.

Kirk Mudgett described the impacts of the project to the floodplain and showed areas of proposed flood plain fill and mitigation on project plans. He explained that the areas of fill and areas of fill removal will balance out to one for one. Mike Hicks agreed that the impacts and credits appear to balance and the project can move forward relative to flood plain impacts. Mike Hicks inquired about historical issues and the Northern Long Eared Bat. Rebecca Martin explained that the bridges are eligible and the project will have an adverse effect. Mitigation has been agreed upon for the bridge impacts. Rebecca Martin explained that due to active season tree clearing the project is anticipated to have an adverse impact on the Northern Long Eared Bat. The project is in accordance with the Range-wide Northern Long Eared Bat Programmatic Agreement between FHWA, FRA, FTA and USFWS and necessary avoidance and mitigation measures will be incorporated into the project to ensure that it meets the conditions of the Programmatic Agreement.

Matt Urban explained that a meeting was held (between NH DOT, Lori Sommer (NH DES) and Jamie Sikora (FHWA)) that day prior to the Natural Resources meeting to discuss mitigation for the stream and bank impacts. NH DOT has evaluated several different options for wetland mitigation. For this project, an ARM fund payment has been determined to be most prudent. Matt Urban led the group through a discussion of the areas where the project proposes impacts to wetlands, streams, and banks. Matt Urban explained that the intent is to mitigate for areas of new permanent bank impacts where stone will be placed where stone is not currently. Areas where there is already rip rap, mitigation would only be calculated for extensions. Lori Sommer agreed to this approach.

Matt Urban commented that based on this method and a reduction for the bridge piers, there would be around 183 linear feet of channel and bank impacts that would need to be mitigated. This would be an ARM fund payment of around $45,000. The wetland permit application is anticipated to be submitted in February of 2018.

Mark Kern raised the issue of temporary impacts to forested wetlands and the Army Corps New England District Compensatory Mitigation Guidance. Mark Kern indicated that the Guidance suggests that mitigation of as much as 20% of temporary forested wetland impacts may be appropriate. The Bureau of Environment staff was not familiar with this guidance, as it has not been raised on other projects. Matt

Urban explained that the Department does not typically mitigate for temporary impacts. Lori Sommer commented that table 2 of the 2016 Corps guidance has been applied to utility projects, not DOT projects. Matt Urban commented that there are about 5,000 sq. ft. of permanent impacts and 87,000 sq. ft. of temporary impacts allowing the Contractor to determine the best course of action for constructing and sliding in the bridges. These impacts are shown to the full extent of the Temporary Construction Easement area to allow the contractor to possibly use any of the Temporary Construction Easement as an area to construct and then slide the constructed bridges into place. It is possible that the Contractor may choose to not use that location and construct the bridge and do the slide from one of the other quadrants around the bridge in which case the impacts would be reduced. The Department seeks not to dictate the Contractor's means and methods to complete this work. Therefore, the intention is to apply for a permit for the full extent of possible area the Contractor may require to complete the work. Lori Sommer suggested that it might be possible to mitigate for temporary forested wetland impacts after the Contractor has selected their method. Mike Hicks commented that this does not come up often and he will engage Ruth Ladd in the mitigation conversation.

The group discussed the temporary forested wetland impacts including impact area "N" (equals 21,191 square feet of temporary impact), area "W" (about 6,161 square feet of temporary impact), and area "X" (about 1,965 square feet of temporary impact). Cumulatively, this means the project is showing 29,317 square feet of temporary impact to forested wetlands. Mark Kern commented that the 20% is a guideline, Army Corps could determine that a lower percentage is appropriate.

The group also discussed that NHDES rules clearly indicate: 'Env-Wt 302.03(d) Mitigation shall not be required for impacts that are not intended to remain after the project is completed, provided the areas are restored in accordance with the provisions shown in the approved project plans.' The Department's plans would consist of clearing trees as necessary to facilitate the proposed constructions and slide-in of the constructed bridge. The stumps would be left in place and the once forested area would be left alone to naturally return to forest. Matt Urban commented that currently the Env-Wt 302.03 rule and the Army Corps guidance seem to contradict each other. Lori Sommer commented that the guidelines could apply because the Department will be seeking both a State and a Federal permit.

Gino Infascelli inquired if the project needs new rip rap where the abutments are being moved back, where it is not currently rip rapped and about the direct discharge shown to the Lovell River. Kirk Mudgett explained that the discharge will be in place for 1 to 1.5 years and is for the temporary diversion. Gino Infascelli requested that note be added to the plans. Gino Infascelli inquired about water quality treatment and Kirk Mudgett explained that under the preliminary design there was treatment needed due to added impervious surface, but that with the removal of a raised median and island and merge ramp at the intersection with NH Route 16 B, the project now reduces impervious area and will not need to treat stormwater. Jason Tremblay explained that the placement of rip rap is due to scour in the area, the piers need 20 feet or riprap around them. Carol Henderson inquired if the proposed rip rap would inhibit wildlife movement. Jason Tremblay said no and explained that there will be room for wildlife movement under the bridges.

This project has been previously discussed at the 1/16/2013 and 8/17/2016 Monthly Natural Resource Agency Coordination Meetings.

Francestown, #15765

Jaime French presented an overview of the bridge replacement on South New Boston Road over the South Branch of the Piscataquog River. The project is part of the NHDOT Bridge Program; construction is scheduled for fiscal year 2020.

The existing bridge is a 43-foot single span with steel girders, concrete deck, and stone/concrete abutments. The superstructure and substructure are in poor condition, and the bridge is structurally deficient. The girders are exhibiting section loss of the bottom flange with several holes in the girder webs. There is some cracking of the abutments and undermining of the northwest corner. In addition, there is a scour hole under the bridge. A hydraulic analysis shows the 50-year flood event has about 1-foot of freeboard, but the 100-year event submerges the girder about 10"; the eastern roadway approach is also overtopped.

The bankfull width was determined to be 66-feet. The 1.2 x BFW +2' criteria results in an 85-foot span, measured bearing to bearing. The low chord of the bridge was set to provide 1-foot of freeboard for the Q50 flood event. It is expected that the existing scour hole will fill in once the waterway opening area is increased; this was taken into account when setting the low chord elevation. This will require a raise in the profile of approximately 1-foot.

In an effort to reduce the right-of-way impacts an 85-foot span without raising the profile was looked at. This option will not meet the hydraulic requirements, nor accommodate the 100-year event and was disregarded as right-of-way impacts are not eliminated.

At the request of an abutter a shorter 60' span was also looked at. This span does not meet the 1.2xBFW requirement, and would raise the roadway more to meet the hydraulic requirements. The option was the most costly due to the deeper foundations and was eliminated.

We are recommending the raised 85' span option with integral abutments. This option meets both the hydraulic criteria and the NHDES stream crossing rules. There will be approximately 910 square feet of permanent wetland impacts; however, we will be creating approximately 960 square feet of new wetlands by moving the abutments back out of the stream.

We have completed the NHB Check and found three species of turtles in the area, Blanding's, Spotted, and Wood, as well as the Northern Black Racer snake. The turtles have been present on the NHB check on our previous Francestown projects. To remedy this, we included in the contract document notes that there is a species that is endangered, threatened, or of special concern at the site and required a protocol to be in place; which includes stopping of work and notifying Fish and Game. We would have the same notes and requirements in this contract. We will be coordinating with Fish and Game for these requirements.

Coordination meetings will be set up with the local conservation commission and the Local River Advisory group.

Lori Sommer asked if there will be impacts to the conservation easement on the north side. Jaime noted that there will be minor impacts for the slopes and for clearing.

Matt Urban asked if there will be any increase in the impervious area. Jaime said the proposed roadway width is 22-feet which will match the existing condition so there will not be an increase in the impervious area.

Mike Hicks asked if increasing the span will affect the downstream structure. Jaime noted that no changes will be seen at the next structure.

Lori Sommer asked if any Brook Floaters or mussels are in the area. Jaime said there is no indication of mussels. Lori also noted that if an easement is required on the conservation easement land coordination with the Charitable Trusts Unit will be required.

Carol Henderson noted that snake friendly erosion control measure need to be used, i.e. coco matting in place of plastic.

Mike Hicks indicated that this is an essential fish habitat. He noted that the Corp is the lead agency so they would perform the Essential Fish Habitat study, but if we prepared this study it will help get the approval faster. Mike also noted that we would have to comply with the Northern Long Eared Bat requirements, and that another bat would soon be on the list and additional requirements may be needed. This will apply to tree cutting of 3" diameter or greater trees. We will also need to complete a US Fish and Wildlife search for species in the area.

Mark Kern noted that the committee definitely supported the recommended option and the effort to use a compliant replacement structure.

Gino Infascelli said if the Conservation Commission and the PRLAC groups are in favor of or take no issue with the project the DOT should request they submit a letter with the wetland permit application as it helps avoid delays in the review process.

This project has not been previously discussed at the Monthly Natural Resource Agency Coordination Meeting.

Newington-Dover, #11238S

Marc Laurin updated the agencies on the FHWA requirements to complete a Limited Scope Supplemental Environmental Impact Study (SEIS) (including an updated Section 106 consultation and Section 4(f) evaluation) for the re-evaluation of alternatives for the disposition of the General Sullivan Bridge (GSB), as concerns have arisen with the proposed rehabilitation detailed in the 2007 EIS. A *Coordination Plan for Agency and Public Involvement* was developed and is posted online at Newington-Dover.com and accessed through the General Sullivan Bridge button and is filed under the Documents link. A formal letter will be sent to the agencies shortly that will ask for input on the Coordination Plan with an invitation to become a participating or cooperating agency. The Coordination Plan addresses how the Department expects to proceed with the development and schedule of the SEIS, including the process to solicit and consider input from agencies and the public.

Keith Cota further discussed the project commitment made in the 2007 EIS to maintain bicycle and pedestrian connectivity across the Little Bay by using the GSB. The rehabilitation of the GSB was scheduled for work after the completion of the widening of the Turnpike (including the expansion of the Little Bay bridges (LBB)) to accommodate temporary pedestrian and bicycle access on the wider LBB during this rehabilitation. Since then, inspections of the GSB, and its continued deterioration, have brought into question whether it is feasible to rehabilitate the bridge. The SEIS will review alternatives that will evaluate the GSB and bicycle-pedestrian connectivity options that were not considered in the 2007 EIS. Preliminary alternatives that will be evaluated include:

- Rehabilitation effort of GSB critical elements, for an estimated life-span of 40 years;
- A greater degree of rehabilitation, including gusset plates replacements, for an estimated life-span of 70 years;
- Partial rehabilitation of only the middle arch with replacement of the approach span;
- Replacement of all of the superstructure and building a new truss with a narrower width on the existing GSB foundations, and;
- Total replacement with construction of a new bridge, which could be stand-alone or connected to the LBB.

There may be other alternatives that will be evaluated. Some alternative may have greater environmental impacts that will need to be reviewed by the agencies. The project is on an aggressive schedule with anticipated fall 2018 completion of the SEIS.

Mike Hicks stated that he will check to see if there will be a Section 408 requirement. Carol Henderson inquired about the coordination with NHDHR. K. Cota replied that coordination is ongoing with NHDHR and there is strong interest in the GSB from them, other historical groups, the general public and politicians, especially on the estimated cost ($30 M or more) to maintain pedestrian/bicycle access. Mark Kern wanted confirmation that the reason Natural Agencies will be asked to participate, is that this is still part of the old EIS in which agencies were previously involved. K. Cota replied that was correct and it is a means of letting the agencies know the status of the SEIS. Gino Infascelli inquired as to the past discussions of maintaining the GSB for emergency access. K. Cota replied that these will be a factor of the loading design evaluation, though access will only be from the Newington side. The loading will need to accommodate inspection vehicles also. Though he stated that in actually AASHTO loading for pedestrian/bicycle access may be greater than for vehicles. Matt Urban stated that the US Coast Guard will need to be kept in the loop. A Public Informational meeting will be scheduled by Keith Cota to be held at the end of January in Dover that will inform the general public on the SEIS process and solicit for Section 106 consultant party interest.

This project has been previously discussed at the 4/16/2003, 7/16/2003, 4/21/2004, 1/19/2005, 4/20/2005, 7/20/2005, 8/17/2005, 11/2/2005, 12/14/2005, 2/21/2006, 3/21/2007, 10/15/2008, 8/19/2009, 8/17/2011, 3/21/2012, 3/19/2014, 6/18/2014, 8/20/2017 Monthly Natural Resource Agency Coordination Meetings.

Loudon-Canterbury, #29613 (X-A004(201))

Christine Perron provided an update on the project, which will involve widening approximately 3.5 miles of NH Route 106 to accommodate a 12-foot center two-way left-turn lane. The project was last reviewed at the January 2017 Natural Resource Agency Coordination Meeting, at which time preliminary wetland impacts were reviewed. A Public Hearing was held on October 23, 2017. As discussed at previous meetings, the project will be divided into two phases for final design and construction. One NEPA document was completed for both phases. Phase I of the project is a 0.9-mile section located just south of the NH Motor Speedway. Phase II consists of one segment to the south and two segments to the north of Phase I.

In January, it was agreed that separate permit applications could be submitted for each phase, with the understanding that mitigation would be provided for the overall project. Final design for Phase I of the project is now underway and wetland impacts are nearly finalized. The purpose of today's discussion is to review Phase I impacts and the need for mitigation prior to submitting the permit application for Phase I.

The existing roadway consists of two 12' shoulders and two 12' travel lanes for a pavement width of 48'. The project proposes to widen the roadway to accommodate an additional 12' lane to serve as a two-way left-turn lane. The travel lanes and shoulders would remain 12'. Overall widening would be approximately 12', resulting in a pavement width of 60', with 6' of widening on each side of the road in most locations. The roadway typical will be wider along one section of NH Route 106 within the limits of Phase I between Clough Hill Road and the south entrance of the speedway, a distance of approximately 1,600 linear feet (LF). This area experiences heavy pedestrian use during race events. In order to address safety concerns associated with large numbers of pedestrians and vehicles on the road at the same time, there will be an additional 6' offset to guardrail, resulting in a grass panel between the paved shoulder and guardrail. The only change in the project since it was discussed at the January meeting is the addition of a 2,000' segment north of the speedway's north entrance where a 6' offset to guardrail will be provided on the east side of

NH 106 to improve pedestrian safety during events at the speedway. The preliminary Phase 2 impacts below include this additional work.
Impacts along the overall project are as follows:

Phase I:
Temporary – 16, 092 sq. ft.
Permanent – 9,049 sq. ft.

Phase II (Preliminary)
Temporary – 10,411 sq. ft.
Permanent – 35,265 sq. ft.

Cumulative Totals (Preliminary)
Temporary – 26,503 sq. ft.
Permanent – 44,314 sq. ft.

Impacts for Phase I, which are nearly final, were provided in more detail:

	Permanent (sq ft)	Permanent (Linear Ft)	Temporary (sq ft)	Temporary (Linear Ft)
Wetland	3,803		6,121	
Channel	4,455	555	8,713	622
Bank	1,737	204	1,258	102
Totals:	9,994	759	16,092	724

Phase I impacts occur in five general locations along the one-mile segment. C. Perron and Chris Carucci described the proposed work and resulting impacts for each location.

Wet ditch (Sta 5439+25 to Sta 5441+25 Lt): The entire ditch will be impacted by the widened roadway slope, resulting in 812 sq ft of impact. The ditch line will be recreated at the new toe of slope.

Lori Sommer commented that impacts to this ditch do not require mitigation since a new ditch line will constructed.

Tier 1 Stream Crossing (Sta 5453+80) and 15" drainage pipe (Sta 5456+75): These pipes outlet into the same wetland system. The stream crossing is a 24" rcp carrying an intermittent stream. The pipe outlets onto a stone berm before the stream enters a large open water wetland with a scrub-shrub border. The culvert will be replaced with a 42" concrete pipe, the berm at the outlet will be removed, and a new stream channel will be ~~re~~constructed at a constant slope to the wetland. The new channel will be stone lined and intermixed with streambed material on the bottom. This work will result in 53 LF of permanent impact to the stream.

The 15" drainage pipe carries non-jurisdictional drainage. The pipe will be sliplined, which will result in a small ~~are~~ amount of temporary impact to the wetland at the outlet.

Gues Meadow Brook (5464+50 to 5467+50 Rt): This location is an area where Gues Meadow Brook is parallel to the roadway and is in the section that will have a wider typical with the 6' grass panel. The

widened roadway slope in this area has been steepened to 1.5:1 to minimize impacts to the stream. This slope is as steep as practical for a conventional earth slope. Stone will be used to stabilize the slope, and humus can be mixed with the stone to establish grass along the slope. The new slope will require removing existing trees and shrubs along the slope and stream bank, and some excavation along the OHW line will be required to match the new slope into the existing channel. The delineated TOB/OHW line does not match exactly match the existing topography, so impacts in plan view appear greater than in cross section view. The proposed toe of slope will match the existing edge of the channel bed. As shown on the plans, permanent impacts along the edge of the stream will be 201 LF. Permanent impact along the edge of the adjacent forested wetland will be 556 sq ft.

Gues Meadow Brook Crossing (Sta 5472+50): This is the first crossing of Gues Meadow Brook in the project area. The crossing consists of twin 72" concrete pipes. Since the pipes are in good condition and have adequate capacity, extension is proposed rather than replacement. Each end will be extended 12 feet and new headwalls will be constructed. This will accommodate the wider roadway and proposed 6-foot grass panel adjacent to the shoulder. The grass panel will allow for the removal of a pedestrian/snowmobile bridge that is located at the inlet. The pipes have no history of flooding and have the capacity to carry the Q50 storm. The pipes also carry the majority of the Q100 storm, with headwater a few inches higher than the edge of pavement. Some flow would divert through the roadside ditch to the south and drain through an existing 18" culvert about 600' south of the twin 72" pipe inlet. Since the project will result in raising the grade of the roadway by approximately 6 inches, the Q100 headwater would not reach the edge of pavement. The outlet of the pipes is slightly perched, and construction of a rock weir is proposed to raise the water level to alleviate the perch. Total permanent impacts to the stream at this location will be 49 LF, and there will be 963 sq ft of permanent impact to an adjacent forested wetland.

Carol Henderson asked if the local snowmobile club has been notified about the removal of the snowmobile bridge. Keith Cota responded that the club would be notified. He explained that the structure was put into place by an abutter who was trying to provide a crossing for pedestrians during race events, and the abutter then allowed the structure to be used by snowmobiles. The proposed grass panel will provide the space needed for pedestrians during race events as well as snowmobiles in the winter.

Gues Meadow Brook Crossing (5482+50 to 5484+60): This is the second crossing of Gues Meadow Brook in the project area and also consists of twin 72" concrete pipes. These pipes are also in good condition with no history of flooding. Proposed work involves constructing new headers in front of the existing headers and constructing new wingwalls. The larger headwalls will contain the new fill for the widened slopes, so the pipes do not need to be extended. The pipes have the capacity to carry both the Q50 and Q100 storms. The stream at the outlet of the crossing is influenced by beaver activity, resulting in a much wider channel where an adjacent wetland is now permanently flooded. Ordinary High Water (OHW) was delineated along the back edge of this flooded wetland, placing a section of OHW adjacent to the existing toe of the roadway slope. This means that the widened slopes will impact the edge of OHW, although the proposed slope has been steepened to 1.5:1 to minimize impacts. As currently delineated, the proposed work will result in 291 LF of permanent stream impact at the outlet and 43 LF of permanent stream impact at the inlet.
Matt Urban commented that the way linear impacts were calculated at the outlet (along the edge of OHW) is not consistent with the way linear stream impacts are typically calculated (along the thread of the channel), so this should be discussed further before finalizing the impact plans.

Gino Infascelli asked if the location of OHW should instead follow the primary stream channel. C. Perron said that she would discuss this further with him. L. Sommer commented that it would be helpful to see the impact areas in the field in the spring.

Amy Lamb asked if plantings could be provided along the toe of slopes adjacent to Gues Meadow Brook. K. Cota replied that plantings would be costly since they would require a lot of hand work for placing stone and putting in plantings. L. Sommer commented that adding plantings would be considered a self-mitigating element of the project and credit could be given toward overall mitigation.

C. Perron provided a summary of the preliminary in-lieu fee for mitigation. The preliminary fee for Phase I is based on the impact totals as presented and will change following resolution of items that require further discussion. The fee for Phase II is based only on preliminary impacts and will change once final design of that phase gets underway.

Phase 1 In-Lieu Fee:
Permanent wetland impacts 3,803 sq ft +/-
Permanent stream impacts 759 linear ft +/-
In-Lieu Fee = $200,573.34 +/-

Phase 2 In-Lieu Fee:
Permanent wetland impacts 27,700 sq ft +/-
Permanent stream impacts 70 linear ft +/-
In-Lieu Fee = $123,000 +/-

C. Carucci noted that the Department hopes to submit the Phase I permit application in the next few weeks in order to obtain the permit before the late-May advertising date. L. Sommer said that the final mitigation package could be further discussed after submittal of the application, after a spring field review is completed and self-mitigation elements are finalized. DES could issue an approval letter, that includes draft permit conditions, for the Department's use in advertising the project, and the final permit would be issued as soon as mitigation is agreed upon.

C. Perron reviewed additional resource considerations. The project overall will result in approximately 200,000 sq ft of additional impervious surface area (about 48,000 sf in Phase 1 and 150,000 sf in Phase 2). Three treatment areas are proposed for Phase 1 and three areas are available for Phase 2, resulting in the treatment of runoff from approximately 687,430 sq ft of impervious area. This equates to treatment for well over twice the area of proposed new pavement, which is the typical target.

C. Carucci elaborated on proposed treatment. He noted that it is not common to exceed the treatment target by so much. The topography within the project area just happened to be conducive to capturing a large amount of runoff. For Phase 1, a treatment pond is proposed on a DOT owned parcel between Mudgett Hill Road and NH 106, a grass swale is proposed adjacent to the Speedway south entrance, and a pond is proposed on the south side of Clough Hill Road adjacent to the Soucook River. At the two pond sites, the proposed design requires shifting flows from existing cross culverts to treatment areas. Where practical, diversion structures will be used to direct low flows to the treatment areas and allow high flows to continue outletting at existing locations. All outlets eventually flow to the same wetland systems and to the Soucook River.

The project will not impact floodplains. There are records of state listed aquatic wildlife species in the area. Impacts to these species are not anticipated since existing conditions at stream crossings will be improved upon. C. Henderson concurred.

Potential federally-listed species in the project area consist of the northern long-eared bat and small whorled pogonia. An acoustic survey was completed last summer and no northern long-eared bat calls were recorded. A formal survey was completed for small whorled pogonia in the location where it had

been identified in 2012. This species was not found at that location or in any other location reviewed during other field work. Habitat within clearing limits along the project was assessed and USFWS concurred that no further surveys were warranted.

Two NHFG properties will be impacted by slope work and the Department has been coordinating with Rich Cook. An existing 15" culvert outlets into the conservation land at Sta 5444+50. Discussion with NHFG indicated the easement language does not allow for extending the pipe, so it will be abandoned and the drainage will be shifted to the Mudgett Hill Road treatment area. The easement language does allow for slope impacts.

This project has been previously discussed at the 1/18/2017 and 8/17/2016 Monthly Natural Resource Agency Coordination Meetings.

Dummer, #16304A (X-A003(835))

Mark Hemmerlein opened the meeting by noting the last review was in Oct 2017. The Department had a public hearing and a few issues were raised by the public. The issues included a trail that runs along the river, the location of a few Osprey nests in the area, and their desire to maintain the view of the river from the roadway. The proposed design now impacts 6.85 acres of wetlands. At the last meeting there was a request for more information regarding the replacement of the 60" pipe that carries Robbins Brook under NH Route 16 within the project area with a larger more wildlife friendly bridge. Jennifer stated the estimate for the 12 foot span bridge was approximately $780K which included a natural bottom and wildlife shelf. Lori noted that cost estimates were previously requested for use during the site walk. Carol inquired about what other mitigation was considered. While in the field only the Robbins Brook crossing was investigated but in prior meetings about mitigation other alternatives were discussed. While in the field Gino Infascelli recommended that soil and vegetation from the wetland side could be used to re-vegetate the river shoreline. Mark described a proposed method of moving soil around the project while maintaining the mulch of the native root stock and existing seed stock in the soil to use for enhancing a water quality buffer and shoreline to the river. Lori and Gino both indicated that a construction sequence would be needed in the application to provide mitigation credit for the proposed river/vegetated buffer along the Androscoggin River. They also indicated it would only be 12% based on the proposed Total Suspended Solids removal. Mark indicated the project will also require a water quality certificate. Mark Kern noted the impact areas are to wooded wetlands and questioned how the cost of a bridge was thought to be mitigation. Gino indicated the replacement value for Robbins Brook culvert was questioned by the NHF&G field reviewers since there is an upstream constriction on NH Route 110A. Matt closed the meeting by indicating the mitigation would likely take the form of a $1.2M ARM fund payment and applications will be submitted in February 2018.

This project has been previously discussed at the 10/15/2014, 7/19/2017, and 10/18/2017 Monthly Natural Resource Agency Coordination Meetings.

Nashua-Merrimack-Bedford, #13761

The proposed project is anticipated to involve widening three segments of the Everett Turnpike, totaling approximately 8 miles, from two lanes to three in each direction. The purpose of this agenda item was to: present the preferred alternative of the Naticook Brook crossing; discuss preliminary wetland impacts with

a focus on the higher value, more significant resource areas (e.g. streams and vernal pools) found throughout the project corridor; and present proposed stormwater BMP and noise wall locations.

Mr. Merrow provided a brief overview of the project before beginning the wetland impacts discussion. Starting from the southern terminus of the project and continuing north, figures displaying the project area, delineated wetlands, slope lines, noise walls, stormwater BMP areas, and wetland and stream impacts were presented. In the southern segment, there are limited impacts to wetlands with the exception of Pennichuck Brook. The Pennichuck Brook area had been discussed in depth at previous Natural Resource Agency Coordination meetings and a preferred alternative has already received concurrence.

Three noise walls are proposed just south of Exit 11 and the southern end of the middle project segment. Mr. Merrow pointed out a large wetland and stream in the vicinity of the noise wall to the west, and noted that at this time impacts are expected to be avoided.

Continuing north along the project corridor, Mr. Merrow pointed out an area of wetland impacts located on the west side of the Turnpike near the Cinemagic movie theater in Merrimack. This wetland area is believed to be a vernal pool due to unknown ambystomid salamander egg masses that were documented during a spring 2017 vernal pool survey. Mr. Merrow stated that impacts can likely be avoided to the wetland at this location. However, another concern is the clearing of forested habitat south of the pool for the installation of a stormwater BMP.

Mark Kern asked for clarification on the species of salamander eggs that were found in this pool, and Mr. Merrow replied that it was most likely either blue-spotted, Jefferson or a hybrid of the two species.

Mr. Martin presented the alternative analysis for the Naticook Brook crossing. Naticook Brook is a Tier 3 perennial stream, with a 2,028-acre watershed. The structure currently consists of a 60” concrete culvert that is hydraulically undersized based on the hydraulic analysis that was completed. The existing culvert is also shared by a sewer pipe that was installed sometime in the early 1980s. The replacement of this culvert is further complicated by 45’ of overburden above the existing culvert and the alignment of the existing stream channel.

Mr. Martin presented three alternatives for the culvert replacement. Alternative 1 includes a supplemental 60” culvert that would be installed parallel to the existing culvert using directional boring methods. The existing 60” culvert would remain in place. This would meet the hydraulic requirements but would not address the NH Stream Crossing Guidelines. Alternative 2 consists of a 90” RCP culvert imbedded 2 feet to allow for a natural substrate bottom. This culvert would be skewed and the existing 60” culvert would be abandoned. This alternative could be installed using either trenchless directional boring (Alternative 2B) or an open cut (Alternative 2A). Alternative 3 is a three-sided bridge structure with a 20’ span and 5’ rise. The preferred alternative based on the cost, and constructability is Alternative 2B. There seemed to be general concurrence that this was the most reasonable alternative.

Mr. Merrow pointed out a downstream segment of Naticook Brook that would be filled and require realignment, noting that this portion of the stream had some scour and erosion issues. Mr. Urban asked if slopes in this area could be steepened to 1:1 or retaining wall used to avoid impacts. Mr. Martin explained that the current meander in the channel is currently at the existing toe-of-slope, and that impacts to the channel are unavoidable even if the slopes are steepened.

Mr. Merrow continued the discussion on wetland impacts, indicating that there are no impacts proposed at the Souhegan River. There is another large semi-permanent vernal pool wetland located north of the Souhegan River on the west side of the Turnpike. Wood frog egg masses were identified in this pool.

NHB identified a record of an individual Blanding's Turtle being found on the Turnpike in the vicinity. There are minimal impacts proposed with 2:1 slopes and guardrail. Mr. Kern asked about drainage and runoff at the location of the pool, and if it would be possible to direct drainage away from this pool to reduce the chloride loading from runoff.

Mr. Urban mentioned that bird's foot violet has been transplanted and is located in the vicinity of the BMP areas near the Souhegan River.

Mr. Merrow introduced the next wetland impact area located near the Baboosic Brook/Wire Road crossings. This area included a small intermittent and a possibly perennial stream with fringe wetlands. The intermittent stream flows east to west underneath the Turnpike, before flowing to the north, parallel to the Turnpike. This intermittent stream joins a small, possibly perennial stream that flows from west to east under the Turnpike before flowing into Baboosic Brook. The intermittent stream on the west side of the Turnpike would require realignment. Mr. Urban asked about the existing channel conditions and if these would be recreated in the constructed channel. Mr. Merrow indicated that a channel with natural substrate and meanders would likely be constructed.

Mr. Merrow also indicated that the final recommended alternative for the Baboosic Brook crossing is still under development, so the impacts associated with this location are not known at this time. These will likely be addressed at the next resource agency meeting. North of Exit 12 there are some fringe wetland impacts but measures have not been taken to avoid these impacts because the wetlands are moderate to low quality and the impacts are relatively minor.

Dumpling Brook is a small perennial stream with a 300-acre watershed. At this location, a pipe extension is proposed on the west side, and on the east side impacts may be avoided by steepening the slopes and installing guardrail. Mr. Sikora asked about the potential noise wall that is shown at this location and how it will tie in. This issue will be addressed as the noise wall design moves forward. Mr. Urban asked about the reasoning for the pipe extension on the west side. Mr. Martin explained that on the west side the pipe extension follows the existing channel, and no guard rail is proposed in the immediate vicinity. However, on the east side an extension is not feasible because the configuration of the channel and existing topography would require extensive earth work. Guardrail is proposed nearby and can be extended to the stream crossing.

Mr. Merrow mentioned that in the area of the I-293 interchange there are some fringe wetland impacts. The existing slopes are relatively steep and high and therefore avoiding these impacts would be difficult. There is an unnamed perennial stream in the northern section south of the I-293 interchange. A pipe extension on the upstream (west) side would be difficult due to the presence of bedrock and a 3-4 foot drop before entering the culvert. Mr. Urban noted that this is a very flashy stream, likely due to the amount of impervious surface in its watershed. The existing culvert is a 72" pipe that has had some recent work done. It meets the hydraulic requirements.

Mr. Merrow described the overall approach to stormwater management and Mr. Thatcher discussed specific stormwater BMP areas. There are three areas where no treatment was possible; these included the Souhegan River, Baboosic Brook, and Dumpling Brook. Mr. Thatcher discussed the typical BMP layout and design. Wet Extended Detention Basins with sediment forebays will be used.

Mr. Merrow indicated that the total area of wetland impacts is expected to be within the 2-3 acre range. If so the project will likely qualify for the Section 404 Programmatic General Permit.

Mr. Urban recommended collecting sufficient data on existing stream channel conditions including longitudinal profiles and cross sections, particularly for areas where realignment is proposed. (It was later determined the consultant collected bankfull widths and depths at stream crossings. Channel profiles and cross sections will be determined during final design.)

Ms. Lamb expressed her concern for rare plant species and stated that avoidance measures are preferable to relocation, and recommended that surveys occur as early on in the project as possible (this season). Ms. Lamb also expressed concerns about exemplary natural communities located in low points and if stormwater BMPs or untreated stormwater would impact these areas, and if alternative stormwater BMPs were possible. The project team will consider whether stormwater may affect exemplary natural communities, and if so, will look into design alternatives.

Mr. Hicks mentioned that floodplain impacts still needed to be addressed. The project team will be quantifying floodplain and floodway impacts.

This project has been previously discussed at the 10/19/2016, 11/16/2016, 2/15/2017, and 5/15/2017 Monthly Natural Resource Agency Coordination Meetings